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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,598	04/15/2004	Yun-Bok Lee	053785-5179	6648
9629	7590	08/30/2005	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			CHOWDHURY, TARIFUR RASHID	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,598

Applicant(s)

LEE, YUN-BOK

Examiner

Tarifur R. Chowdhury

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8-14,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 3,4,7 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04/15/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. **Claims 1, 2, 5, 6, 9-12 and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by applicant's admitted prior art (AAPA).**
5. The AAPA described in the instant application discloses and shows in Fig. 4B, an in-plane switching mode liquid crystal display device, comprising:
 - first and second substrates (not shown) facing and spaced apart from each other, wherein one of the first and second substrates is rubbed in one direction;
 - array elements including field-generating electrodes (97, 98) having a curved shape formed on the first substrate; and

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- a liquid crystal layer (not shown) between the first substrate and the second substrate such that at least a portion of the liquid crystal is oriented in the one direction.

Accordingly, claim 10 is anticipated.

As to claim 1, the method of fabricating the display device merely recites the steps of forming each element and since each elements must be formed to make the device, the method of fabricating would be inherent to the device.

As to claim 2, the AAPA described in the instant application also shows in Fig. 2 that the first and second substrate have rectangular shape having a long side and a short side, and the liquid crystal layer is oriented by rubbing using a rubbing roll (62).

As to claims 5, 6, 11 and 12, the AAPA described in the instant application also discloses and shows in Fig. 4B that the array elements include a gate line (GL), a data line (DL) crossing the gate line and a thin film transistor (T) connected to the gate line and the data line and that one direction is 90 degrees with respect to the gate line.

As to claims 9 and 17, the AAPA described in the instant application also discloses that the second substrate comprises a color filter.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Hirakata et al., (Hirakata), USPAT 5,977,562.

8. The AAPA differs from the claimed invention because it does not explicitly disclose that the space between the pixel electrode and the common electrode has a ring shape.

Hirakata discloses an in-plane switching type liquid crystal display wherein the pixel electrode (331) and the common electrode (332) are spaced apart from each other and the space between them has a ring shape (Fig. 11). He further discloses that such an structure is advantageous since it produce a uniform electric field between the pixel electrode and the common electrode (col. 9, lines 51-54).

Hirakata is evidence that ordinary workers in the art would find a reason, suggestion or motivation to form pixel electrode and common electrode such that they are separated from each other and a space between them has a ring shape.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of the AAPA by using spiral pixel electrode and common electrode so that a space between them form a ring pattern in order to produce uniform electric field between the pixel electrode and the common electrode, as per the teachings of Hirakata.

9. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Leenhouts et al., (Leenhouts), USPAT 4,609,255.

10. The AAPA differs from the claimed invention because it does not explicitly disclose the use of polarizers and that a first polarization axis of a first polarizer is

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perpendicular to the one orientation direction and a second polarization axis of the second polarizer is parallel to the one orientation direction.

Leenhouts discloses a liquid crystal display device including a front polarizer and a back polarizer. He further discloses that the polarization direction of the front polarizer runs parallel to one orientation direction and the polarization direction of the back polarizer is perpendicular to one orientation direction. He also discloses that such an arrangement improves contrast ratio (col. 2, lines 27-43).

Leenhouts is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use polarizers wherein a first polarization axis of a first polarizer is perpendicular to the one orientation direction and a second polarization axis of the second polarizer is parallel to the one orientation direction.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ polarizers in the display device of the AAPA such that polarizers and that a first polarization axis of a first polarizer is perpendicular to the one orientation direction and a second polarization axis of the second polarizer is parallel to the one orientation direction for advantages such as improved contrast ratio.

Accordingly, claims 13 and 14 would have been obvious.

Allowable Subject Matter

11. Claims 3, 4, 7 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC
August 27, 2005


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER